

Serial No.: 10/679,408  
Amendment Dated: October 14, 2005  
Reply to Office Action of July 14, 2005

**Amendments to the Specification:**

Please replace last paragraph on page 16 bridging to page 17, with the following amended paragraph:

The NC control unit 51 makes the operation command creating portion 65 obtain a board top arrival time  $T_a$  of the drill 4 from Equation 1 using the air-cut distance  $L_a$  and the Z-axis lowering velocity  $V_z$ , calculate an optimal Z-axis lowering timing  $t$  using the stabilization time  $T_s$  read from the storage portion 63, and create [[an]] a command to the drive control unit 52.

Please replace the paragraph starting at line 14 on page 17, with the following amended paragraph:

When the control parameter setting portion 68 is connected to the response analyzing portion [[68]] 66, no alarm is displayed on the alarm display portion 67, but a set of control parameters stored beforehand in the control parameter setting portion 68 are selected. Control parameters set currently in the drive control unit 52 are replaced by the selected control parameters. After that, Steps 1 and 2 are performed again to observe a response waveform under the selected control parameters. When there is a set of parameters with which the magnitude of overshoot and undershoot of the response waveform and so on will be within their predetermined threshold values, machining is performed using the selected control parameters. When a desired result cannot be

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obtained, other control parameters are selected. When there is no proper set of parameters even if such an operation is repeated, there has occurred something out of order in the apparatus, or the conditions of installation of the apparatus have deteriorated. Thus, the NC control unit 51 makes the alarm display portion 67 display an alarm to make a notification that the apparatus is out of order.